

Tennessee Pollution Prevention Partnership Success Story

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Jobe's "Switch" to Conserve Energy & Stop Climate Change

The Member

The Jobe Household consists of Charles (age 47), Keri (age 40), Laurel (age 9), and Matthew (age 4 ½). We live in the Nashville-area suburban community of Bellevue. Charles is an Environmental Coordinator with TDEC's Office of Environmental Assistance (OEA), Nashville Field Office, and has worked for TDEC a little over 15 years. Keri is a certified teacher, taught elementary grades with Metro Davidson County schools for about seven years and currently teaches preschool/pre-K at a private early childhood education facility in Bellevue. Laurel is an honor student in the 4th grade at Harpeth Valley Elementary, and Matthew will be starting kindergarten there this August. Keri and I both have degrees in Environmental Studies (University of California at Santa Cruz, where we met), and backgrounds in science/environmental education, so we come by our interest in/passion for environmental concerns honestly. We try to instill these values in our children, and to consciously integrate an environmental ethic/awareness into every aspect of our lives.

The Story

Our house, built in 1982, is an approximately 2000 square foot, 1.5-story wood frame of conventional construction, i.e., not built to be particularly energy efficient by current standards. We purchased the house in 1995, and between 2001 and 2005 made a number of energy conserving updates and improvements, at a total investment of over \$14,000, including: an all new high-efficiency HVAC system; Energy Star rated replacement windows and patio doors; and several new *Energy Star*[™] rated major appliances (water heater, refrigerator, & dishwasher – see attachment "Jobe Household TP3 Energy Projects" for more detailed info). Most of these projects, possibly excepting the doors and windows, were necessary replacements of old/outdated equipment that we also used as opportunities to make our home

more energy. efficient. This year (2007) we have made two additional changes that were completely voluntary/optional, less expensive and arguably more effective: all of our non-decorative incandescent light bulbs were replaced with Compact Fluorescent Lights (CFLs); and we have signed up with TVA's Green Power Switch program to purchase 150 KWH per month* of green/renewable energy (*to start with – we hope to increase this amount later).

The Success

Based on an analysis of monthly electric bills over the past 7½ years, all of the above-described projects/improvements have resulted a total energy use reduction between 14% and 26%, depending on whether this is expressed simply as the total average kilowatt hours (KWH) used per month/year, or as a function of kilowatt hours divided by degree days (DD). Total KWH used has decreased from an average of 1688/month in 2000 to a current average of about 1450 month (approximately 14% less KWH month used now than in 2000). The ratio of KWH/DD has decreased from approximately 4.2 (average/month) in 2000 to 3.1 currently (i.e., 26% fewer KWH/DD used now than in 2000). This should also take into account the fact that the Jobe Household has increased in size and activity during the same period of time.

The Pollution Prevented

The reduction in total average KWH used from 1688/month in 2000 to 1450/month currently, combined with the additional 150 KWH/month Green Power Switch offset, corresponds to a 23.5% net reduction in CO₂ emissions per year (from 13.2 tons/year in 2000 to 10.1 tons/year currently).

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